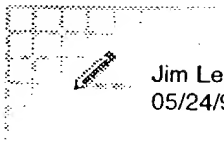
ATTACHMENT B



Jim Leonard
05/24/98 02:38 PM

To: Daniel P Morris/Watson/IBM@IBMUS
cc:
From:
Subject: Layered Like or Type

Dan,

For Layered Like or Type, here are some article abstracts. One book was found for Layered Type.

Article listing are from a search of INSPEC on DIALOG.

If citation information is needed, let me know.

All the best,

Jim
James W. Leonard, Reference Librarian, Watson Library Services. Room 16-240
IBM TJ Watson Research Center,
Route 134, Yorktown Hts. NY 10598.
jwl@us.ibm.com
Voice=(914) 945 3468; Fax=(914) 945 4144

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File 2:INSPEC 1969-1998/May W3
(c) 1998 Institution of Electrical Engineers

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Layered like

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?•s layered()like
          23991  LAYERED
         136878  LIKE
     S13      5  LAYERED()LIKE
?•s s13 and py=1969:1985
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       2642109  PY=1969 : PY=1985
     S14      1  S13 AND PY=1969:1985
?•t 14/7/1

 14/7/1
DIALOG(R)File   2:INSPEC
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02401641   INSPEC Abstract Number: A85032877
  Title:  Polymorphism of diphthalocyanine-neodymium. Molecular and crystal
structure of beta phase
  Author(s):  Darovskikh,  A.N.; Tsytsenko, A.K.; Frank-Kamenetskaya, O.V.;
Fundamenskii, V.S.; Moskalev, P.N.
```

Author Affiliation: Inst. of Nucl. Phys., Acad. of Sci., Leningrad, USSR
Journal: Kristallografiya vol.29, no.3 p.455-61
Publication Date: May-June 1984 Country of Publication: USSR
CODEN: KRISAJ ISSN: 0023-4761
Translated in: Soviet Physics - Crystallography vol.29, no.3 p.273-6
Publication Date: May-June 1984 Country of Publication: USA
CODEN: SPHCA6 ISSN: 0038-5638
U.S. Copyright Clearance Center Code: 0038-5638/84/030273-04$03.90
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)

Abstract: X-ray structural analysis reveals that diphthalocyanine-neodymium, with the composition PcNdPc/sub ox/ (Pc=(C/sub 32/H/sub 16/N/sub 8/)/sup 2-/, Pc/sub ox/=(C/sub 32/H/sub 16/N/sub 8/)/sup 1-/) exists in three polymorphic modifications-tetragonal alpha , orthorhombic gamma , and monoclinic beta . Determination of the crystal structure of the beta phase (P2/sub 1/ automatic diffractometer, theta -2 theta method, Mo K alpha , R=0.052) revealed that it is of the structural type Pc/sub 2/U. The sandwich molecules are packed in layers parallel to the ac plane. The metal-ligand distance in the structure of Pc/sub 2/M (where M is a metal ion) is explained by the ratio between the ionic radii (r/sub Nd/>r/sub u/>r/sub Sn/). The angle of relative rotation of the ligands is apparently determined by the character of the packing. Comparing the identity periods T/sub perpendicular to / perpendicular to the layers of molecules in the alpha , beta , and gamma modifications of diphthalocyanine-neodymium (2T/sup alpha //sub (001)/=T/sup beta //sub (001)/sin beta =T/sup gamma //sub (101)/), one sees that the M-ligand distances are stable in these structures. The relation between the periods T/sup beta //sub (100)/ approximately=T/sup beta //sub (010)/ approximately=1/2T/sub (110)//sup alpha / in the alpha and beta phases shows that the tetragonal structure is evidently layered like the beta phase. (10 Refs)

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Layered type

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          23991  LAYERED
         419473  TYPE
     S15      80  LAYERED()TYPE
?•s s15 and py=1969:1985
             80  S15
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     S16      15  S15 AND PY=1969:1985
?•t 16/7/1-15

 16/7/1
DIALOG(R)File   2:INSPEC
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02616964   INSPEC Abstract Number: B86015292
  Title: A study of the breakdown mechanism in dual-layer MOS capacitor
dielectrics
  Author(s): Domangue, E.; Hickman, T.; Pyle, R.; Rivera, R.
  Author Affiliation: Motorola Inc., Austin, TX, USA
  Conference Title: 35th Electronic Components Conference (Cat. No.
85CH2184-0)    p.396-9
  Publisher: IEEE, New York, NY, USA
  Publication Date: 1985    Country of Publication: USA    516 pp.
  U.S. Copyright Clearance Center Code: 0569-5503/85/0000-0396$01.00
  Conference Sponsor: IEEE; Electron. Ind. Assoc
  Conference Date: 20-22 May 1985    Conference Location: Washington, DC,
USA
```

Language: English Document Type: Conference Paper (PA)
Treatment: Experimental (X)
Abstract: The time to break down distribution of MOS capacitors fabricated with a multilayer dielectric was studied. The dielectric was composed of 10 nm of thermal silicon dioxide, 15 nm of LPCVD silicon nitride, and 1-3 nm of SiO/sub 2/ thermally grown on the Si/sub 3/N/sub 4/ layer. The test capacitor was constructed with paralleled storage cells in a 64K dynamic memory device. Various electric fields and temperatures were used to stress the layered type of capacitors and a control group consisting of the same vehicle but having a 39 nm silicon dioxide dielectric. Stressed units were physically analyzed to isolate the failure sites. The type and location of the dielectric breakdown faults were found to be similar in both types of dielectric structure. The layered dielectric demonstrated superior reliability, however, which is attributed to lower defectivity or the spatial variation of the applied electric field within the structure. (9 Refs)

16/7/2
DIALOG(R)File 2:INSPEC

02506581 INSPEC Abstract Number: A85096207
Title: Reflectivity, joint density of states and band structure of group IVb transition-metal dichalcogenides
Author(s): Bayliss, S.C.; Liang, W.Y.
Author Affiliation: Cavendish Lab., Cambridge Univ., UK
Journal: Journal of Physics C (Solid State Physics) vol.18, no.17 p.3327-35
Publication Date: 20 June 1985 Country of Publication: UK
CODEN: JPSOAW ISSN: 0022-3719
U.S. Copyright Clearance Center Code: 0022-3719/85/173327+09$02.25
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Optical joint density of states (OJDOS) functions have been obtained from Kramers-Kronig analysis of reflectivity measurements for the layered-type materials TiS/sub 2/, TiSe/sub 2/, ZrS/sub 2/, ZrSe/sub 2/, HfS/sub 2/ and HfSe/sub 2/. The reflectivity measurements were made at near-normal incidence over the photon energy range 0.6-14 eV at 77K. Comparison of the OJDOS functions shows that there are many similarities in the band shapes which can be explained in terms of the amount of trigonal distortion present in the crystal lattice and the differences in binding energy of electron levels in the atoms. (9 Refs)

16/7/3
DIALOG(R)File 2:INSPEC

02225943 INSPEC Abstract Number: A84041348, B84023254
Title: Hydriodic acid photodecomposition on layered-type transition metal dichalcogenides
Author(s): Bicelli, L.P.; Razzini, G.
Author Affiliation: Dept. of Appl. Phys. Chem., Milan Polytech., Milan, Italy
Journal: Surface Technology vol.20, no.4 p.393-403
Publication Date: Dec. 1983 Country of Publication: Switzerland
CODEN: SUTED8 ISSN: 0376-4583
U.S. Copyright Clearance Center Code: 0376-4583/83/$3.00
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The photodecomposition of hydriodic acid on platinized n-WSe/sub 2/ single crystals immersed in an aqueous 1 M HI solution was studied. During the photodecomposition process, hydrogen evolution only

occurred on the microscopic defects of the sample surface, whereas iodine was produced on the smooth areas where a diffuse orange-red colouring appeared. For polycrystalline specimens, however, hydrogen gas bubbles were formed over the entire surface, the rate of process being markedly slower than on single crystals. The results are discussed with the assumptions that the n-WSe/sub 2/ single crystals behave as Schottky-type photochemical diodes, that the cathodic reaction takes place on the stepped platinum-covered areas and that the anodic reaction occurs on the smooth unplatinized areas. (26 Refs)

16/7/4
DIALOG(R)File 2:INSPEC

02085031 INSPEC Abstract Number: A83077984, B83041973
Title: Mechanistic studies of reversible layer-type electrodes
Author(s): Rouxel, J.; Molinie, P.; Top, L.H.
Author Affiliation: Lab. de Chimie des Solides, Nantes, France
Journal: Journal of Power Sources vol.9, no.3-4 p.345-57
Publication Date: April-May 1983 Country of Publication: Switzerland
CODEN: JPSODZ ISSN: 0378-7753
U.S. Copyright Clearance Center Code: 0378-7753/83/0000-0000/$3.00
Conference Title: International Meeting on Lithium Batteries
Conference Date: 27-29 April 1982 Conference Location: Rome, Italy
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: In layered type intercalation electrodes ions are stored reversibly during the functioning of secondary batteries. The behaviour of the system depends on geometrical and electronic factors. The geometrical factors are concerned with the localization of the ions in the host structure; they deal with average structure determinations and local ordering problems. The diffusion properties of the intercalated ions depend on the site geometry, the population of the Van Der Waals gap, the ionicity of the bonds in the host, the stoichiometry of the host, and the mechanical properties of its slabs. Electrons have to be accommodated by the host. The band structure of the host plays an important role in respect of the ability to intercalate, the phase limit, and the stability of the products. Metal-insulator transition may be induced. Other possible factors such as Jahn-Teller effects have also to be considered. (23 Refs)

16/7/5
DIALOG(R)File 2:INSPEC

01994480 INSPEC Abstract Number: A83023215
Title: Structure of tungstic acids and amorphous and crystalline WO/sub 3/ thin films
Author(s): Ramans, G.M.; Gabrusenoks, J.V.; Veispals, A.A.
Author Affiliation: Inst. of Solid State Phys., P. Stucka Univ., Riga, USSR
Journal: Physica Status Solidi A vol.74, no.1 p.K41-4
Publication Date: 16 Nov. 1982 Country of Publication: East Germany
CODEN: PSSABA ISSN: 0031-8965
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The authors compare the Raman spectra of a-WO/sub 3/ with spectra of crystalline WO/sub 3/.H/sub 2/O, WO/sub 3/.2H/sub 2/O and amorphous bulk WO/sub 3/.H/sub 2/O. It is concluded from the results that the structure of a-WO/sub 3/ films consists of a layered type structure of tungsten hydrates and of a framework structure of tungsten anhydride. The band at 590 cm/sup -1/ is attributed to stretching modes of the terminal

oxygen. By dehydration of amorphous WO/sub 3/.1.74 H/sub 2/O one can get amorphous bulk samples with a structure similar to the a-WO/sub 3/ thin films. (12 Refs)

16/7/6
DIALOG(R)File 2:INSPEC

01973788 INSPEC Abstract Number: A83008001
Title: Synthesis of new layered-type and new mixed-layered-type bismuth compounds
Author(s): Kodama, H.; Watanabe, A.
Author Affiliation: Nat. Inst. for Res. in Inorganic Materials, Ibaraki, Japan
Journal: Journal of Solid State Chemistry vol.44, no.2 p.169-73
Publication Date: Sept. 1982 Country of Publication: USA
CODEN: JSSCBI ISSN: 0022-4596
U.S. Copyright Clearance Center Code: 0022-4596/82/110169-05$02.00/0
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Four new compounds, PbBi/sub 2/TiTaO/sub 8/F, PbBi/sub 2/TiNbO/sub 8/F, Bi/sub 5/Ti/sub 2/WO/sub 14/F, and Bi/sub 7/Ti/sub 5/O/sub 20/F, were prepared and identified by X-ray diffraction analysis. Two of them are new members of a family called layered bismuth compounds. The other two are new members of a family called mixed-layered bismuth compounds. Thermal properties of the new compounds were studied. Moreover, the possibility of the existence of other new members belonging to the family called mixed-layered bismuth compounds is discussed. (14 Refs)

16/7/7
DIALOG(R)File 2:INSPEC

01891945 INSPEC Abstract Number: A82076639
Title: The phase relations in the Yb/sub 2/O/sub 3/-Fe/sub 2/O/sub 3/-MO systems in air at high temperatures (M: Co, Ni, Cu, and Zn)
Author(s): Kimizuka, N.; Takayama, E.
Author Affiliation: Nat. Inst. for Res. in Inorganic Materials, Ibaraki-ken, Japan
Journal: Journal of Solid State Chemistry vol.42, no.1 p.22-7
Publication Date: 15 March 1982 Country of Publication: USA
CODEN: JSSCBI ISSN: 0022-4596
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The phase relations in the Yb/sub 2/O/sub 3/-Fe/sub 2/O/sub 3/-CoO system at 1350 and 1300 degrees C, the Yb/sub 2/O/sub 3/-Fe/sub 2/O/sub 3/-NiO system at 1300 and 1200 degrees C, the Yb/sub 2/O/sub 3/-Fe/sub 2/O/sub 3/-CuO system at 1000 degrees C and the Yb/sub 2/O/sub 3/-Fe/sub 2/O/sub 3/-ZnO system at 1300 degrees c were determined in air by means of a classical quenching method. New layered-type compounds, YbFeCoO/sub 4/ (a=3.4295(5) AA, c=25.198(3) AA), YbFeCuO/sub 4/ (a=3.4808(2) AA, c=24.100(2) AA), and YbFeZnO/sub 4/ (a=3.4251(2) AA, c=25.282(2) AA), which are isomorphous with YbFe/sub 2/O/sub 4/ (space group: R3m; a=3.455(1) AA, c=25.109(2) AA), and a new compound, Yb/sub 2/Cu/sub 2/O/sub 5/, were obtained. In the Yb/sub 2/O/sub 3/-Fe/sub 2/O/sub 3/-NiO system, there are no quaternary compounds. (10 Refs)

16/7/8
DIALOG(R)File 2:INSPEC

01816212 INSPEC Abstract Number: C82012609
Title: Office automation technology-storage and retrieval of information
Author(s): Kurachi, T.
Author Affiliation: Toshiba Corp., Ome-shi, Japan
Journal: Journal of the Institute of Electronics and Communication Engineers of Japan vol.64, no.2 p.143-9
Publication Date: Feb. 1981 Country of Publication: Japan
CODEN: IECJAJ ISSN: 0373-6121
Language: Japanese Document Type: Journal Paper (JP)
Treatment: Applications (A); Practical (P)
Abstract: The file compositions ordered using link and direct using a page map and B tree type retrieval order are described. Layered type data models as in IBM's IMS, and the MRI System 2000, network type data models as in GE's IDS and Cineam Systems' TOTAL, relational type data model as in IBM's System R and Software AG's ADABAS and distributed type data base are also described. The types of retrieval and their call words are discussed and exemplified. Floppy disc, magnetic drum, magnetic disk, large capacity memory devices and backend systems and database machines are discussed. Micrographics and graphic information files are briefly discussed. (13 Refs)

16/7/9
DIALOG(R)File 2:INSPEC

01587609 INSPEC Abstract Number: A80098966
Title: A method of measurement of the refractive indices of crystals with layered structure
Author(s): Allakhverdiev, K.R.; Guliev, R.I.; Salaev, E.Yu.; Kulevskii, L.A.; Savelev, A.D.; Smirnov, V.V.
Author Affiliation: Inst. of Phys., Acad. of Sci., Baku, Azerbaidzhan SSR, USSR
Journal: Physica Status Solidi A vol.60, no.1 p.309-12
Publication Date: 16 July 1980 Country of Publication: East Germany
CODEN: PSSABA ISSN: 0031-8965
Language: English Document Type: Journal Paper (JP)
Treatment: New Developments (N); Experimental (X)
Abstract: A method of determining the refractive indices of the ordinary (n/sub o/) and extraordinary (n/sub e/) rays in crystals with layered type structure are described. The refractive indices of layered CdInGaS/sub 4/ and TlInS/sub 2/ are measured using this technique with the help of laser radiation source at 0.63, 1.15, and 3.39 mu m. The experimentally obtained values of n/sub o/ and n/sub e/ are extrapolated from 0.6 to 4.0 mu m by the formulas n/sub o//sup 2/=A+B(lambda /sup 2/+C); n/sub e//sup 2/=K+L/(lambda /sup 2/+M). The values of the extrapolation coefficients A, B, C, K, L, and M for CdInGaS/sub 4/ and TlInS/sub 2/ crystals are obtained using the electronic computer Mir-2. (4 Refs)

16/7/10
DIALOG(R)File 2:INSPEC

01496111 INSPEC Abstract Number: B80019231
Title: Fabrication of 8 turn multi-track thin film heads
Author(s): Hanazono, M.; Kawakami, K.; Narishige, S.; Asai, O.; Kaneko, E.; Okuda, K.; Ono, K.; Tsuchiya, H.; Hayakawa, W.
Author Affiliation: Hitachi Res. Lab., Hitachi Ltd., Ibaraki, Japan
Journal: IEEE Transactions on Magnetics vol.MAG-15, no.6 p.1616-18
Publication Date: Nov. 1979 Country of Publication: USA
CODEN: IEMGAQ ISSN: 0018-9464
Conference Title: Joint INTERMAG-MMM Conference
Conference Sponsor: IEEE

Conference Date: 17-20 July 1979 Conference Location: New York, NY, USA
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Practical (P)
Abstract: To obtain high bit and high track densities, fabrication of thin film magnetic recording heads have been studied by a number of companies. The authors describe a newly developed method for fabricating layered type, multi-turn, multi-track thin film inductive heads with a central tap by using photolithographic and thin film deposition techniques. (6 Refs)

16/7/11
DIALOG(R)File 2:INSPEC

01406419 INSPEC Abstract Number: A79086309
Title: A theoretical study of the effects of various laryngeal configurations on the acoustics of phonation
Author(s): Titze, I.R.; Talkin, D.T.
Author Affiliation: Sensory Communication Res. Lab., Gallaudet Coll., Washington, DC, USA
Journal: Journal of the Acoustical Society of America vol.66, no.1 p.60-74
Publication Date: July 1979 Country of Publication: USA
CODEN: JASMAN ISSN: 0001-4966
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: Simulation of glottal volume flow and vocal fold tissue movement was accomplished by numerical solution of a time-dependent boundary value problem in which nonuniform, orthotropic, linear, incompressible vocal fold tissue media were surrounded by irregularly shaped boundaries, which were either fixed or subject to aerodynamic stresses. Spatial nonuniformity of the tissues was of the layered type, including a mucosal layer, a ligamental layer, and muscular layers. Orthotropy was required to stabilize the vocal folds longitudinally and to accommodate large variations in muscular stress. Incompressibility and vertical motions at the glottis played an important role in producing and sustaining phonation. A nominal configuration for male fundamental speaking pitches was selected, and the regulation of fundamental frequency, intensity, average volume flow, and vocal efficiency was investigated in terms of variations around this nominal configuration. Vocal intensity and efficiency are shown to have local maxima as the configurational parameters are varied one at a time. It appears that oral acoustic power output and vocal efficiency can be maximized by proper adjustments of longitudinal tension of nonmuscular (mucosal and ligamental) tissue layers in relation to muscular layers. Quantitative verification of the 'body-cover' theory is therefore suggested, and several further implications with regard to control of the human larynx are considered. (17 Refs)

16/7/12
DIALOG(R)File 2:INSPEC

01295844 INSPEC Abstract Number: A79010903
Title: Optical phonons in TlInS/sub 2/
Author(s): Allakhverdiev, K.R.; Adigezalov, U.V.; Nani, R.Kh.; Yusifov, Yu.G.
Journal: Izvestiya Akademii Nauk Azerbaidzhanskoi SSR, Seriya Fiziko-Tekhnicheskikh i Matematicheskikh Nauk no.1 p.21-5
Publication Date: 1978 Country of Publication: USSR
CODEN: IAFMAF ISSN: 0002-3108

Language: Russian Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The optical phonons of a wide gap semiconducting TlInS/sub 2/ which has a layered type structure have been investigated by the method of long-wavelength infra-red (JR) and Raman scattering spectroscopy. The splitting of absorption bands is observed when the crystals are cooled down to 100K. The comparison of phonon frequencies determined from JR and Raman experiments revealed TlInS/sub 2/ to be centresymmetric. (10 Refs)

16/7/13
DIALOG(R)File 2:INSPEC

01081136 INSPEC Abstract Number: A77063130
Title: Field dependence of the susceptibility maximum for two-dimensional antiferromagnet
Author(s): Mostafa, M.F.; Semary, M.A.; Ahmed, M.A.
Author Affiliation: Dept. of Phys., Faculty of Sci., Cairo Univ., Cairo, Egypt
Journal: Physics Letters A vol.61A, no.3 p.183-4
Publication Date: 2 May 1977 Country of Publication: Netherlands
CODEN: PYLAAG ISSN: 0375-9601
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The magnetic susceptibility measurements on layered type structure (CH/sub 3/NH/sub 3/)/sub 2/FeCl/sub 2/Br/sub 2/ revealed a transition temperature T/sub N/(H=0) approximately=100K. The transition temperature of (CH/sub 3/NH/sub 3/)/sub 2/FeCl/sub 4/ was previously found to be T/sub N/(H=0) approximately=95K. The effect of magnetic field on the transition temperature and peak intensity for both compounds has been investigated. (7 Refs)

16/7/14
DIALOG(R)File 2:INSPEC

00360679 INSPEC Abstract Number: A72019924
Title: Magnetic ordering in LiCr/sub 1-x/Fe/sub x/O/sub 2/
Author(s): Tauber, A.; Moller, W.M.; Banks, E.
Author Affiliation: US Army Electronics Command, Fort Monmouth, N.J., USA

Journal: Journal of Solid State Chemistry vol.4, no.1 p.138-52
Publication Date: Jan. 1972 Country of Publication: USA
CODEN: JSSCBI ISSN: 0022-4596
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Magnetic ordering in the LiCr/sub 1-x/Fe/sub x/O/sub 2/ system has been investigated for polycrystal and single crystal specimens characterized by optical and X-ray diffraction techniques. Part of the Li/sub 2/O-Fe/sub 2/O/sub 3/-Cr/sub 2/O/sub 3/ system was also investigated. Magnetization and susceptibility measurements from 4.2 to 900K and Mossbauer measurements from 4.2 to 300K indicate that all compositions of ordered rocksalt (space group R3m) order antiferromagnetically at low temperatures. The first-order phase transition tracked with all Mossbauer parameters. The Weiss molecular field theory for a layered-type antiferromagnet was fitted with two exchange constants. The dependence of theta on x was found to be theta = theta /sub a/(1-x)/sup 2/+ theta /sub b/2x(1-x)+ theta /sub c/x/sup 2/, where - theta /sub a/=Cr/sup 3+/-Cr/sup 3+/ interaction, + theta /sub b/=Fe/sup 3+/-Cr/sup 3+/ interaction and - theta /sub c/=Fe/sup 3+/-Fe/sup 3+/ interaction. A spontaneous magnetization associated with iron-substituted crystals originated with an epitaxial overgrowth of LiCr/sub 4.75/Fe/sub 0.25/O/sub

8/. (29 Refs)

16/7/15
DIALOG(R)File 2:INSPEC
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00301052 INSPEC Abstract Number: C71019443
Title: A static and dynamic finite element shell-analysis with experimental verification
Author(s): Klein, S.
Author Affiliation: Aerospace Corp., San Bernardino, CA, USA
Journal: International Journal for Numerical Methods in Engineering vol.3, no.3 p.299-316
Publication Date: July-Sept. 1971 Country of Publication: UK
CODEN: IJNMBH ISSN: 0029-5981
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: A system of finite element shell analysis codes, called SABOR/DRASTIC, is used to analyse a complex two-layered shell of revolution under static and dynamic asymmetric loads. The dynamic analysis is compared with experimentally measured response. In this linear elastic analysis, emphasis is placed on the inherent flexibility of the finite element method in modelling the complex structural geometry of a given test specimen. Static studies, which involve variations in important shell parameters, and dynamic studies, which provide a successful correlation with experiment, are used to illustrate both the detail and the generality with which shell analyses may now be performed with confidence.

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Layered Like books = 0

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S E A R C H R E S U L T S

Search ID	Records Found	Search Term
S43	0	layered-like
S44	1440	layered
S45	57219	like
S46	0	(layered-like) or (layered w like)

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Layered Type books = 1

47=> f (layered-type) or (layered w type)
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S E A R C H R E S U L T S

Search ID	Records Found	Search Term

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S47             0   layered-type
S48          1440   layered
S49         82277   type
S50             1   (layered-type) or (layered w type)

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Searching ...
S E A R C H  R E S U L T S

Search    Records    Search Term
ID        Found
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S51             1   s50 and yr < 1986

52=> d s51 1 f8
R e c o r d  1  o f  1
Copyright 1998 OCLC
Page: 1 of 1

AN:  23935341
AU:  Lee, Harry Nai-Shee, 1942-
TI:  Electrical transport properties of some hexagonal layered type
     transition metal chalcogenides.
YR:  1969
LN:  English
PT:  Book
PH:  ix, 83 l. charts, diagrs. 28 cm.

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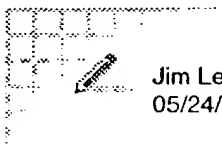
ATTACHMENT C



Jim Leonard
05/24/98 02:27 PM

To: Daniel P Morris/Watson/IBM@IBMUS
cc:
From:
Subject: Rare Earth Like or Type

Dan,

For Rare Earth Like or Type, here are some article abstracts. No books were found.

Article listing are from a search of INSPEC on DIALOG.

If citation information is needed, let me know.

All the best,

Jim
James W. Leonard, Reference Librarian, Watson Library Services. Room 16-240
IBM TJ Watson Research Center,
Route 134, Yorktown Hts. NY 10598.
jwl@us.ibm.com
Voice=(914) 945 3468; Fax=(914) 945 4144

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File    2:INSPEC  1969-1998/May W3
        (c) 1998 Institution of Electrical Engineers
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Rare Earth like

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         136878  LIKE
      S5      10  RARE()EARTH()LIKE
?•s s5 and py=1969:1985
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        2642109  PY=1969 : PY=1985
      S6      4  S5 AND PY=1969:1985

?•t 6/7/1-4

 6/7/1
DIALOG(R)File   2:INSPEC
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

01990663   INSPEC Abstract Number: A83018861
```

Title: Rare earths and actinides
Author(s): Coqblin, B.
Author Affiliation: Lab. de Phys. des Solides, Univ. Paris-Sud, Centre d'Orsay, Orsay, France
Journal: Journal of Magnetism and Magnetic Materials vol.29, no.1-3 p.1-19
Publication Date: Oct. 1982 Country of Publication: Netherlands
CODEN: JMMMDC ISSN: 0304-8853
U.S. Copyright Clearance Center Code: 0304-8853/82/0000-0000/$02.75
Conference Title: Proceedings of the 4th European Conference on Rare Earths and Actinides
Conference Date: 28-31 March 1982 Conference Location: Durham, UK
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Bibliography (B); General, Review (G)
Abstract: Reviews the different properties of rare-earths and actinides, either as pure metals or as in alloys or compounds. Three different cases are considered: (i) in the case of 'normal' rare-earths which are characterized by a valence of 3, the author discusses essentially the magnetic ordering, the coexistence between superconductivity and magnetism and the properties of amorphous rare-earth systems; (ii) in the case of 'anomalous' rare-earths, 'intermediate-valence' systems and 'Kondo' systems are distinguished. Special emphasis is given to the problems of the 'Kondo lattice' (for compounds such as CeAl/sub 2/, CeAl/sub 3/ or CeB/sub 6/) or the 'Anderson lattice' (for compounds such as TmSe). The problem of neutron diffraction in these systems is also discussed; and (iii) in the case of actinides, the d-f hybridized and almost magnetic metals at the beginning of the series are separated from the rare-earth like metals after americium. (193 Refs)

6/7/2
DIALOG(R)File 2:INSPEC

01381163 INSPEC Abstract Number: A79069701
Title: Magnetic properties of amorphous alloys of Fe and La, Lu, Y, and Zr
Author(s): Heiman, N.; Kazama, N.
Author Affiliation: IBM Res. Lab., San Jose, CA, USA
Journal: Physical Review B (Condensed Matter) vol.19, no.3 p. 1623-32
Publication Date: 1 Feb. 1979 Country of Publication: USA
CODEN: PRBMDO ISSN: 0163-1829
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: In order to study the systematics of the Fe-Fe exchange in amorphous rare-earth-Fe alloys, without the complications associated with the magnetic characteristics of the rare-earth elements, amorphous films of Fe alloyed with La, Lu, Y, and Zr have been prepared with a wide range of Fe concentrations. Magnetization and Mossbauer-effect measurements were made. The magnetic properties of the alloys depended critically on the choice of rare earth (or rare-earth-like element). YFe and LuFe alloys were found to have spin-glass characteristics while LaFe and ZrFe alloys were found to be ferromagnetic, but with evidence that exchange fluctuations were nearly as large as the average exchange. Thus the nature of the Fe-Fe exchange interaction depends critically upon the species of the rare earth. The most important parameter in determining the magnetic behavior of these alloys appears to be the size of the rare-earth atom, with large rare-earth atoms resulting in a smaller ratio of exchange fluctuations to exchange. The same dependence of the magnetic properties upon rare-earth size appears to be important in the case of magnetic-rare-earth atoms; however, the effect of rare-earth-Fe exchange also becomes important and these effects are discussed. (30 Refs)

6/7/3
DIALOG(R)File 2:INSPEC

00692540 INSPEC Abstract Number: A74076053
Title: Crystal fields in dilute rare-earth metals obtained from magnetization measurements on dilute rare-earth alloys
Author(s): Touborg, P.; Hog, J.
Author Affiliation: Tech. Univ., Lyngby, Denmark
Journal: Physical Review Letters vol.33, no.13 p.775-8
Publication Date: 23 Sept. 1974 Country of Publication: USA
CODEN: PRLTAO ISSN: 0031-9007
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Measurements of the crystal field parameters of rare earth metals can be obtained by diluting the rare earths in nonmagnetic rare earth-like hosts. Alloys of terbium, dysprosium, and erbium with scandium, yttrium and lutetium hosts were prepared and crystal field parameters determined from magnetisation measurements. An unsystematic relationship was found between crystal field parameters and rare earth atomic number. (17 Refs)

6/7/4
DIALOG(R)File 2:INSPEC

00258862 INSPEC Abstract Number: A71036349
Title: The effective size of americium dissolved in lanthanum (and superconducting transition temperature of La-Al alloys)
Author(s): Hill, H.H.; Ellinger, F.H.
Journal: Journal of the Less-Common Metals vol.23, no.1 p.92-4
Publication Date: Jan. 1971 Country of Publication: Switzerland
CODEN: JCOMAH ISSN: 0022-5088
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The lattice parameters of alloys of f.c.c. beta -La containing 1.25 to 3.70 at% Am are determined by X-ray analysis. It is found that the effective ionic size of the dissolved Am is very close to that of elemental Am itself. The unusually weak depression of the superconducting transition temperature of beta -La caused by the addition of small amounts of Am is discussed. It is suggested that Am ions in La exhibit rare earth-like characteristics of trivalency and a localized d-electron configuration. (11 Refs)

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Rare Earth type

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         103240  EARTH  (January 1969)
         419473  TYPE
      S7      10  RARE()EARTH()TYPE
?•s s7 and py=1969:1985
             10  S7
        2642109  PY=1969 : PY=1985
      S8      3  S7 AND PY=1969:1985
?•t 8/7/1-3
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8/7/1
DIALOG(R)File 2:INSPEC

00926715 INSPEC Abstract Number: A76057644
Title: Lattice parameter variations in the rare earth type B and C structures
Author(s): Ferguson, I.F.
Author Affiliation: RFL, Springfields, UK
Conference Title: UKAEA Diffraction Analysis Conference, the Role of Diffraction and Electron Analysis in the Fast Reactor p.25
Editor(s): Ferguson, I.F.
Publisher: UKAEA, Warrington, Lancs., UK
Publication Date: 1975 Country of Publication: UK 74 pp.
Conference Date: 15-17 Oct. 1974 Conference Location: Dounreay, UK
Language: English Document Type: Conference Paper (PA)
Treatment: Experimental (X)
Abstract: The lattice parameters of monoclinic europia have been determined and contrasted with a range of solid solutions which have the same Rare Earth type B structure as europia. These solid solutions were based upon samaria and gadolinia which lie on either side of europia in the lanthanide series. Curiously, europia does not lie where it would be expected to lie on the lattice parameter plots on the basis of its ionic radius. This is attributed to its position in the middle of the lanthanide series. For the lanthanide oxides with the cubic Rare Earth type C structure an anomaly again occurs, but this time for gadolinia. (0 Refs)

8/7/2
DIALOG(R)File 2:INSPEC

00279317 INSPEC Abstract Number: A71048689, B71021928
Title: Cast permanent magnets of cobalt, copper, and cerium: process and performance characteristics
Author(s): Cullen, T.J.
Author Affiliation: Sel-Rex Corp., Nutley, NJ, USA
Journal: Journal of Applied Physics vol.42, no.4 p.1535-6
Publication Date: 15 March 1971 Country of Publication: USA
CODEN: JAPIAU ISSN: 0021-8979
Conference Title: 16th annual conference on magnetism and magnetic materials
Conference Date: 17-20 Nov. 1970 Conference Location: Miami Beach, FL, USA
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Experimental (X)
Abstract: A process for casting magnets of the cobalt, copper, rare-earth type weighing as much as several pounds has been developed. The characteristics of the alloys are highly reproducibie between castings. The uniformity of performance within a casting is excellent. The residual induction of a typical cerium alloy casting is 5600 G. The coercive force is 4800 Oe. The variation of induction with temperature in the region of a load line of 2, is 0.08%/ degrees C from room temperature to 100 degrees C.

8/7/3
DIALOG(R)File 2:INSPEC

00125174 INSPEC Abstract Number: A70028540
Title: Magnetic properties of erbium ferrite
Author(s): Apostolov, A.
Author Affiliation: Sofia Univ., Bulgaria
Journal: Comptes Rendus de l'Academie Bulgare des Sciences vol.22, no.9 p.995-8

Publication Date: 1969 Country of Publication: Bulgaria
CODEN: CRABAA ISSN: 0366-8681
Language: English Document Type: Journal Paper (JP)
Abstract: Erbium ferrite ErFeO/sub 3/ is of the rare-earth type with an orthorhombic deformation and spatial group Pbnm. The authors investigate the antiferromagnetism of the rare earth around the antiferromagnetic point of Neel for erbium ions, for which they measured the magnetic properties of the substance in the entire range between 2 degrees K and 1200 degrees K.

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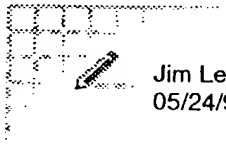
ATTACHMENT D



Jim Leonard
05/24/98 02:22 PM

To: Daniel P Morris/Watson/IBM@IBMUS
cc:
From:
Subject: Perovskite Like and Type

Dan,

For Perovskite Like or Type, here are some article abstracts and some books.

Article listing are from a search of INSPEC on DIALOG, and the book listings are from searching the EPIC OCLC database.

If citation information is needed, let me know.

All the best,

Jim
James W. Leonard, Reference Librarian, Watson Library Services. Room 16-240
IBM TJ Watson Research Center,
Route 134, Yorktown Hts. NY 10598.
jwl@us.ibm.com
Voice=(914) 945 3468; Fax=(914) 945 4144

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File   2:INSPEC  1969-1998/May W3
       (c) 1998 Institution of Electrical Engineers

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Perovskite like


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          136878  LIKE
      S1     467  PEROVSKITE()LIKE
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         2642109  PY=1969 : PY=1985
      S2     127  S1 AND PY=1969:1985
?•t 2/7/1-10,117-127

 2/7/1
DIALOG(R)File   2:INSPEC
(c) 1998 Institution of Electrical Engineers. All rts. reserv.

02785278   INSPEC Abstract Number: A87006595
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Title: Crystal-chemical features and properties of layered bismuth vanadate-titanate
Author(s): Osipyan, V.G.; Savchenko, L.M.; Kostanyan, K.A.
Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy vol.21, no.11 p.1924-7
Publication Date: Nov. 1985 Country of Publication: USSR
CODEN: IVNMAW ISSN: 0002-337X
Translated in: Inorganic Materials vol.21, no.11 p.1676-9
Publication Date: Nov. 1985 Country of Publication: USA
CODEN: INOMAF ISSN: 0020-1685
U.S. Copyright Clearance Center Code: 0020-1685/85/2111-1676$09.50
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: It has been established that Bi/sub 13/V/sub 5/TiO/sub 34/ belongs to the ferroelectric family of bismuth-containing compounds with a layered compound. The formula unit Bi/sub 2//1/6V5/6Ti1/6O/sub 5/2/3 corresponds to a layered structure of (Bi/sub 2/O/sub 2/)/sup 2+/(Bi1/6V5/6Ti1/6O/sub 3/2/3)/sup 2-/ with one perovskite-like layer between ions of bismuthyl (Bi/sub 2/O/sub 2/)/sup 2+/. The dielectric properties indicate that Bi/sub 13/V/sub 5/TiO/sub 34/ has ferroelectric properties. The solid-phase process of formation of the compound from a mixture of the initial oxides takes place in one stage in the temperature range 600-800 degrees C. (8 Refs)

2/7/2
DIALOG(R)File 2:INSPEC

02777488 INSPEC Abstract Number: A87003002
Title: Some optical and electrophysical properties of complexly substitutes phases based on A/sub 2/B/sub 2/O/sub 7/ perovskite-like ferroelectrics
Author(s): Titov, Yu.A.; Leonov, A.P.; Sych, A.M.; Stefanovich, S.Yu.; Lashneva, V.V.; Venevtsev, Yu.N.
Author Affiliation: T.G. Shevchenko Kiev State Univ., Ukrainian SSR, USSR
Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy vol.21, no.10 p.1739-43
Publication Date: Oct. 1985 Country of Publication: USSR
CODEN: IVNMAW ISSN: 0002-337X
Translated in: Inorganic Materials vol.21, no.10 p.1515-19
Publication Date: Oct. 1985 Country of Publication: USA
CODEN: INOMAF ISSN: 0020-1685
U.S. Copyright Clearance Center Code: 0020-1685/85/2110-1515$09.50
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The purpose of the present work was to precisely determine whether the structures of the complexly substituted phases are centro- or noncentrosymmetric and to evaluate some of the ferroelectric and thermal characteristics and electrical-conduction properties. The investigations of the electrophysical characteristics were carried out on ceramic samples in the form of tablets with silver electrodes. The density of the ceramics was 0.7-0.8 of the X-ray density. The differential thermal analysis in the 1000-2400 degrees C temperature range was carried out on a system based on a high-temperature furnace with a tungsten heating element. The study of the nonlinear-optical properties of the phases synthesized was carried out by a method involving the generation of the second optical harmonic of their laser emission according to the 'reflection' scheme. Samples with a grain diameter from 10 to 20 mu were used in this case. (8 Refs)

2/7/3
DIALOG(R)File 2:INSPEC

02697831 INSPEC Abstract Number: A86086709
Title: Compositions and electrical properties of complex bismuth layer-structured ferroelectric ceramics
Author(s): Takenaka, T.; Sakata, K.
Author Affiliation: Fac. of Sci. & Technol., Sci. Univ. of Tokyo, Chiba, Japan
Journal: Japanese Journal of Applied Physics, Supplement vol.24, suppl.24-3 p.117-19
Publication Date: 1985 Country of Publication: Japan
CODEN: JJPYA5 ISSN: 0021-4922
Conference Title: Proceedings of the 5th Meeting on Ferroelectric Materials and their Applications (FMA-5)
Conference Date: 29-31 May 1985 Conference Location: Kyoto, Japan
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The dielectric and piezoelectric properties of complex bismuth layer-structured ferroelectrics were studied. The Curie temperature T/sub c/ of solid solution systems based on PbBi/sub 2/Nb/sub 2/O/sub 9/ linearly increases as the tolerance factor for perovskite-like units of the layer structure rapidly decreases according to the increase of the substitution ion for Pb. A substitution of (NaBi)/sub 1/2/ for Pb in the solid solution Pb/sub 1-x/(NaBi)/sub x/2/Bi/sub 2/Nb/sub 2/O/sub 9/ (PNBN-100x) system gives the elevated T/sub c/ and the easy poling process: Na/sub 0.5/Bi/sub 2.5/Nb/sub 2/O/sub 9/ has a very high Curie temperature of 785 degrees C. The coupling factor k/sub 33/ of the hot-forged PNBN-50 is about 20%. (11 Refs)

2/7/4
DIALOG(R)File 2:INSPEC

02693893 INSPEC Abstract Number: A86080922
Title: Growth and investigation of single crystals of Bi/sub 4/GeVO/sub 10.5/ and Bi/sub 8/P/sub 4-x/Ge/sub 1+x/O/sub 24-x/2/
Author(s): Firsov, A.V.; Bush, A.A.; Mirkin, A.E.; Venevtsev, Yu.N.
Author Affiliation: L.Ya. Karpov Sci. Res. Physicochem. Inst., Moscow, USSR
Journal: Kristallografiya vol.30, no.5 p.932-6
Publication Date: Sept.-Oct. 1985 Country of Publication: USSR
CODEN: KRISAJ ISSN: 0023-4761
Translated in: Soviet Physics - Crystallography vol.30, no.5 p.540-3
Publication Date: Sept.-Oct. 1985 Country of Publication: USA
CODEN: SPHCA6 ISSN: 0038-5638
U.S. Copyright Clearance Center Code: 0038-5638/85/050540-04$03.90
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: By slow cooling of melts the authors have obtained single crystals of the phases Bi/sub 4/GeVO/sub 10.5/ and Bi/sub 8/P/sub 4-x/Ge/sub 1+x/O/sub 24-x/2/ (x=0.25). They have monitored the chemical composition of the crystals, and have investigated them by X-ray diffraction, IR spectroscopy, and examination of their dielectric and pyroelectric properties. They have obtained new data on the crystallographic characteristics of the phases, and have found that the crystals exhibit the pyroelectric effect at room temperature. By high-temperature X-ray diffraction, in crystals of the phase Bi/sub 4/GeVO/sub 10.5/ at 550K they find a first-order phase transition between the orthorhombic and tetragonal forms. The crystals of the phase Bi/sub 4/GeVO/sub 10.5/ are ferroelectrics with a Curie point of 550K. The crystals of this phase have a similar structure to crystals of bismuth compounds with layered perovskite-like structures. (9 Refs)

2/7/5
DIALOG(R)File 2:INSPEC

02666118 INSPEC Abstract Number: A86064258
Title: Thermal expansion data. VIII. Complex oxides, ABO/sub 3/, the perovskites
Author(s): Taylor, D.
Author Affiliation: Fairey Tecramics Ltd., Filleybrooks, Stone, UK
Journal: Transactions and Journal of the British Ceramic Society vol.84, no.6 p.181-8
Publication Date: Nov.-Dec. 1985 Country of Publication: UK
CODEN: TJBCAD ISSN: 0307-7357
Language: English Document Type: Journal Paper (JP)
Treatment: Bibliography (B); Theoretical (T)
Abstract: Gives regression data and percentage expansions for the following perovskites: AgNbO/sub 3/, AgTaO/sub 3/, BaBiO/sub 3/, BaFeO/sub 3/, BaPbO/sub 3/, BaSnO/sub 3/, BaTiO/sub 3/, BaZrO/sub 3/, BiFeO/sub 3/, CaMnO/sub 3/, Gd/sub 0.1/WO/sub 3/, KNbO/sub 3/, KTaO/sub 3/, LaAlO/sub 3/, LaCrO/sub 3/, LaMnO/sub 3/, LuCoO/sub 3/, NaMn/sub 7/O/sub 12/, MaNbO/sub 3/, Na/sub 0.8/WO/sub 3/, NdAlO/sub 3/, PbHfO/sub 3/, PbTiO/sub 3/, PbZrO/sub 3/, PrAlO/sub 3/, SrCeO/sub 3/, SrCoO/sub 3/, SrHfO/sub 3/, SrPbO/sub 3/, SrTiO/sub 3/, SrZrO/sub 3/, YCoO/sub 3/, YMnO/sub 3/, YbMnO/sub 3/ and for the perovskite-like compounds LiNbO/sub 3/ and LiTaO/sub 3/. (119 Refs)

2/7/6
DIALOG(R)File 2:INSPEC

02650988 INSPEC Abstract Number: A86058958
Title: Formation of single crystals of the perovskite-like ferroelectric Pb(Mg/sub 1/3/Nb/sub 2/3/)O/sub 3/
Author(s): Petrovskii, G.T.; Bondar', I.A.; Andreev, E.M.; Koroleva, L.N.
Author Affiliation: I.V. Grebenshchikov Inst. of Silicate Chem., Acad. of Sci., USSR
Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy vol.20, no.6 p.1067-70
Publication Date: June 1984 Country of Publication: USSR
CODEN: IVNMAW ISSN: 0002-337X
Translated in: Inorganic Materials vol.20, no.6 p.924-6
Publication Date: June 1984 Country of Publication: USA
CODEN: INOMAF ISSN: 0020-1685
U.S. Copyright Clearance Center Code: 0020-1685/84/2006-0924$08.50
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Single crystals of LMN were synthesized by spontaneous crystallization from solution in a melt of lead oxide with added boron oxide. By varying the solvent content and the temperature regime over wide ranges, it was established that the optimal conditions from growing single crystals of LMN are 980-1100 degrees C and 50-60 mass % solvent. The resulting single crystals of lead magnesioniobate, when examined under the microscope, were seen to be isotropic, with good face development and high refractive index n=2.60. (7 Refs)

2/7/7
DIALOG(R)File 2:INSPEC

02640282 INSPEC Abstract Number: A86052249
Title: Sintering and microstructure of bismuth-containing ferroelectric

ceramics
Author(s): Osipyan, V.G.; Freidenfel'd, E.Zh.
Author Affiliation: Riga Polytech. Inst., Latvian SSR, USSR
Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy vol.20, no.7 p.1211-13
Publication Date: July 1984 Country of Publication: USSR
CODEN: IVNMAW ISSN: 0002-337X
Translated in: Inorganic Materials vol.20, no.7 p.1043-5
Publication Date: July 1984 Country of Publication: USA
CODEN: INOMAF ISSN: 0020-1685
U.S. Copyright Clearance Center Code: 0020-1685/84/2007-1043$08.50
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: In the study of the sintering kinetics for ceramics based on bismuth-containing ferroelectric compounds with a layer perovskite-like structure, th liquid phase character of the process has been established. By modification and addition of the original oxides over stoichiometry, a substantial reduction of the sintering temperature and expansion of the sintering temperature interval has been achieved for ceramics of compositions Bi/sub 3/TiNbO/sub 9/ and Na/sub 0.5/Bi/sub 4.5/Ti/sub 4/O/sub 15/. This is explained from the viewpoint of vacancy defect theory. The microstructure of bismuth-containing ferroelectric ceramics is formed from needle-shaped grains; this is due to preferential crystal growth is bismuth-containing compounds along the longer axes of the unit cells in these compounds. (8 Refs)

2/7/8
DIALOG(R)File 2:INSPEC

02624075 INSPEC Abstract Number: A86039596
Title: Role of steric factors in ionic mobility processes in compounds having a perovskite-like structure
Author(s): Voronov, V.N.; Aleksandrov, K.S.
Author Affiliation: L.V. Kirenski Inst. of Phys., Acad. of Sci., Krasnoyarsk, USSR
Journal: Fizika Tverdogo Tela vol.27, no.7 p.1968-76
Publication Date: July 1985 Country of Publication: USSR
CODEN: FTVTAC ISSN: 0367-3294
Translated in: Soviet Physics - Solid State vol.27, no.7 p.1182-7
Publication Date: July 1985 Country of Publication: USA
CODEN: SPSSA7 ISSN: 0038-5654
U.S. Copyright Clearance Center Code: 0038-5654/85/071182-06$03.90
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T); Experimental (X)
Abstract: In the search for new solid electrolytes, an attempt was made at a quantitative allowance for known influences on the mobility. The parameter rho /sub ij/=R/sub j/ /sup n/ Sigma /sub l=1/ /sup 3/ square root alpha /sub lj//nR/sub i/ /sup 3/ square root alpha /sub i/ was used, representing intermediate positions of type j for a mobile ion of type i. An analysis of rho /sub ij/ in the case of halides with a perovskite-like structure showed that fluorine anions are much more mobile than cations or the other halogen anions. Ranges of existence were found for the fluorides promising as solid electrolytes, and such compounds were synthesized and investigated. In the elpasolite and cryolite structures, rho /sub ij/ has two values corresponding to the two observed types of motion. A comparison of the temperatures T/sub ij/ at which motion begins with the calculated rho /sub ij/ gave an empirical relation T/sub ij/=T/sub mp/- beta rho /sub ij/. No dependence of beta approximately=700 degrees on the kinds of ion circumscribing the intermediate position, or on the type of the mobile ion, was found for any of the compounds studied. (32 Refs)

2/7/9
DIALOG(R)File 2:INSPEC

02611546 INSPEC Abstract Number: A86033506
Title: Microdomains in the reduction of Ca/sub 2/LaFe/sub 3/O/sub 8+z/
Author(s): Gonzalez-Calbet, J.M.; Vallet-Regi, M.; Alario-Franco, M.A.
Author Affiliation: Dept. de Quimica Inorg., Univ. Complutense, Madrid, Spain
Journal: Journal of Solid State Chemistry vol.60, no.3 p.320-31
Publication Date: Dec. 1985 Country of Publication: USA
CODEN: JSSCBI ISSN: 0022-4596
U.S. Copyright Clearance Center Code: 0022-4596/85$3.00
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The reduction of Ca/sub 2/LaFe/sub 3/O/sub 8+z/ in the electron microscope shows this solid to decompose into Ca/sub 2/Fe/sub 2/O/sub 5/ and LaFeO/sub 3/, two perovskite-related line-phases which, under these conditions, appear to be thermodynamically more stable. In kinetic terms, the decomposition appears to be of the nucleation and growth type. Microdomains appear to be an essential characteristic of the system since they are present in both the reactants and the reaction products. Up to nine sets of structurally-related microdomains can simultaneously be present within the same crystal. This leads to quite elaborate electron diffraction patterns which can be interpreted in terms of perovskite superstructures. These results are discussed in terms of diffusion data on perovskite-like ferrites. (16 Refs)

2/7/10
DIALOG(R)File 2:INSPEC

02600371 INSPEC Abstract Number: A86027018
Title: Crystal-chemical conditions for formation of new layered compounds of bismuth
Author(s): Korzunova, L.V.; Osipyan, V.G.; Shebanov, L.A.; Freidenfel'd, E.Zh.
Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy vol.20, no.12 p.2074-6
Publication Date: Dec. 1984 Country of Publication: USSR
CODEN: IVNMAW ISSN: 0002-337X
Translated in: Inorganic Materials vol.20, no.12 p.1813-15
Publication Date: Dec. 1984 Country of Publication: USA
CODEN: INOMAF ISSN: 0020-1685
U.S. Copyright Clearance Center Code: 0020-1685/84/2012-1813$08.50
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: The family of layered perovskite-like bismuth compounds (LPBC), first discussed by Aurivillius (1949), has the general formula (Bi/sub 2/O/sub 2//)/sup 2+/(A/sub n-1/B/sub n/O/sub 3n+1//)/sup 2-/ where A is Ca/sup 2+/, Ba/sup 2+/, Pb/sup 2+/ and other ions of the corresponding size; B is Ti/sup 4+/, Nb/sup 5+/, Ta/sup 5+/, W/sup 6+/ and other ions capable of forming oxygen octahedra; and n=1, 2, 3, . . . represents the number of perovskite-like layers between the bismuthyl layers (Bi/sub 2/O/sub 2//)/sup 2+/. The authors discuss problems arising in the formation of new layered bismuth compounds Bi/sub 2/A/sub n-1/B/sub n/O/sub 3n+3/ from two others with different numbers of perovskite-like layers n. (11 Refs)

2/7/117
DIALOG(R)File 2:INSPEC

00530722 INSPEC Abstract Number: A73043864
Title: The SrMnO/sub 3-x/-Mn/sub 3/O/sub 4/ system
Author(s): Negas, T.
Author Affiliation: Nat. Bur. Stand., Washington, DC, USA
Journal: Journal of Solid State Chemistry vol.7, no.1 p.85-8
Publication Date: May 1973 Country of Publication: USA
CODEN: JSSCBI ISSN: 0022-4596
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Phase relations were determined in the SrMnO/sub 3-x/-Mn/sub 3/O/sub 4/ system at elevated temperatures in air using quenching, gravimetric, and X-ray diffraction techniques. The system contains one intermediate compound, SrMn/sub 3/O/sub 6-x/ (0<or=x<or=0.10 between 900-1200 degrees C), which decomposes to SrMnO/sub 3-x/ plus Mn/sub 3/O/sub 4/ near 1215 degrees C. The existence of an oxygen deficient SrMnO/sub 3-x/ having the hexagonal 4-layer structure was confirmed. Crystals of perovskite-like SrMnO/sub 3-x/(x>0.25) were grown from its primary field located in the system.

2/7/118
DIALOG(R)File 2:INSPEC

00506189 INSPEC Abstract Number: A73027443, B73016495
Title: Mossbauer studies of some perovskite-like layer-type ferroelectrics
Author(s): Sultanov, G.D.; Mirishli, F.A.; Ismailzade, I.H.
Author Affiliation: Inst. Theoretical Problems Chem. Technol., Acad. Sci., Azerbaijan SSR, USSR
Journal: Acta Crystallographica, Section A (Crystal Physics, Diffraction, Theoretical and General Crystallography) vol.A28, pt.4, suppl. p.S241
Publication Date: 15 July 1972 Country of Publication: Denmark
CODEN: ACACBN ISSN: 0567-7394
Conference Title: 9th International Congress of Crystallography of the International Union of Crystallography. Abstracts only
Conference Sponsor: Internat. Union of Crystallography
Conference Date: 26 Aug.-7 Sept. 1972 Conference Location: Kyoto, Japan
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Experimental (X)
Abstract: In the layer-type ferroelectrics the entrance of the large cations A, having noticeably different from Bi/sup 3+/ polarizability and sizes, into the octahedral emptiness of the perovskite-like packages stipulates changing of the electric field gradient on the nuclei in the oxygen octahedra. This effect has been investigated by the Mossbauer spectra of Fe/sup 57/ in the layer-type ferroelectrics Bi/sub 2/Bi/sub 4/Ti/sub 3/Fe/sub 2/O/sub 18/ (A), (PrBi)Bi/sub 4/Ti/sub 3/Fe/sub 2/O/sub 18/ (B), Pr/sub 2/Bi/sub 4/Ti/sub 3/Fe/sub 2/O/sub 18/(C) at temperatures between 80 degrees K and 1150 degrees K. For the crystals B and C the weak lines of the magnetic splitting conditioned by some second (Magnetoordered) phase are observed. According to temperature of disappearance of the quadrupole splitting in A, B, and C crystals the Curie temperatures of these ferroelectrics 1075 degrees K, 1050 degrees K and 900 degrees K have been determined. The Mossbauer measurements show some anomalous variation of the isomer shift around the Curie points.

2/7/119
DIALOG(R)File 2:INSPEC

00504369 INSPEC Abstract Number: A73027007

Title: High pressure synthesis and crystal structure of NaMn/sub 7/O/sub 12/
Author(s): Marezio, M.; Dernier, P.D.; Chenavas, J.; Joubert, J.C.
Author Affiliation: Bell Telephone Labs., Murray Hill, NJ, USA
Journal: Journal of Solid State Chemistry vol.6, no.1 p.16-20
Publication Date: Jan. 1973 Country of Publication: USA
CODEN: JSSCBI ISSN: 0022-4596
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: A new compound, NaMn/sub 7/O/sub 12/ with the perovskite-like arrangement has been synthesized at 80 kbar and 1000 degrees C. This compound is cubic, a=7.3036 AA space group Im3 with four formula weights per unit cell. The structure has been solved by Patterson and Fourier synthesis and refined by least-squares based on 142 reflections. The final R and wR factors were 0.025 and 0.033, respectively. The A sites of the perovskite structure are occupied by sodium and manganese atoms in an ordered fashion. The sodium atoms are each surrounded by a 12-oxygen polyhedron whereas the manganese atoms have four nearest oxygens at 1.909 AA forming a square and four more at 2.688 AA forming a rectangle perpendicular to the square. The distortion of the oxygen network from the ideal perovskite structure is similar to that found for In(OH)/sub 3/ and Sc(OH)/sub 3/. (13 Refs)

2/7/120
DIALOG(R)File 2:INSPEC

00461712 INSPEC Abstract Number: A72084489
Title: Infrared spectra of the rare earth perovskites LZO/sub 3/ (Z=Al, Cr, Fe, Co) (Crystal structure)
Author(s): Couzi, M.; Pham Van Huong
Author Affiliation: Univ. Bordeaux I, Talence, France
Journal: Journal de Chimie Physique et de Physico-Chimie Biologique vol.69, no.9 p.1339-47
Publication Date: Sept. 1972 Country of Publication: France
CODEN: JCPBAN ISSN: 0021-7689
Language: French Document Type: Journal Paper (JP)
Abstract: The infrared spectra, in the range from 800 to 40 cm/sup -1/ of perovskite-like aluminates LAlO/sub 3/ where L=La, Nd, Gd, Tb, Ho, Er, orthochromites LCrO/sub 3/ where L=La, Pr, Nd, Sm, Eu, Gd, Tb, Ho, Er, Tm, Yb, Lu and some similar compounds have been interpreted in connection with the structure of these crystals and by means of group factor analysis. Correlations have been established between the spectral evolution and the crystal distortion of these ionic compounds. (27 Refs)

2/7/121
DIALOG(R)File 2:INSPEC

00369712 INSPEC Abstract Number: A72025328
Title: Structural basis of ferroelectricity in the bismuth titanate family
Author(s): Newnham, R.E.; Wolfe, R.W.; Dorrian, J.F.
Author Affiliation: Pennsylvania State Univ., University Park, PA, USA
Journal: Materials Research Bulletin vol.6, no.10 p.1029-40
Publication Date: Oct. 1971 Country of Publication: USA
CODEN: MRBUAC ISSN: 0025-5408
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: More than fifty ferroelectrics belong to the Bi/sub 4/Ti/sub 3/O/sub 12/ family, and all consist of Bi/sub 2/O/sub 2/ layers interleaved with perovskite-like M/sub n-1/R/sub n/O/sub 3n+1/ layers. Crystal structures of three members of the family have been refined from X-ray and

neutron diffraction data, elucidating the distortions responsible for ferroelectricity. Bi/sub 2/WO/sub 6/(n=1) is orthorhombic, space group B2cb; Bi/sub 3/TiNbO/sub 9/ (n=2) orthorhombic, A2/sub 1/am; Bi/sub 4/Ti/sub 3/O/sub 12/ (n=3) monoclinic, Pc, but very nearly orthorhombic, B2cb. Similar distortions occur in all three structures, with large rotational motions accompanying the polarization along a. Below the transition, a strong Bi-O bond is formed to the apex oxygen of the perovskite layer, tilting the octahedra and producing antiparallel shifts along b. Symmetry differences in the even- and odd-layered compounds can be explained by the type of strains produced in the perovskite layer. The octahedral cations (W, Ti, Nb) are the major contributors to the spontaneous polarization, moving about 0.4 AA toward an octahedral edge. (16 Refs)

2/7/122
DIALOG(R)File 2:INSPEC

00359917 INSPEC Abstract Number: A72019058
Title: The crystal structures of orthorhombic SmAlO/sub 3/ and of trigonal NdAlO/sub 3/
Author(s): Marezio, M.; Dernier, P.D.; Remeika, J.P.
Author Affiliation: Bell Telephone Labs., Murray Hill, NJ, USA
Journal: Journal of Solid State Chemistry vol.4, no.1 p.11-19
Publication Date: Jan. 1972 Country of Publication: USA
CODEN: JSSCBI ISSN: 0022-4596
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The structures of NdAlO/sub 3/ and SmAlO/sub 3/ have been refined with precision from single crystal X-ray data. Both compounds have the perovskite-like arrangement. In the trigonal NdAlO/sub 3/ (space group R3c) the neodymium atoms have coordination number 12, the average Nd-O distance being 2.660 AA. The aluminum atoms are surrounded by a trigonally distorted octahedron, with an average Al-O distance of 1.896 AA. In the orthorhombic SmAlO/sub 3/, the samarium atoms are surrounded by 12-oxygen polyhedra but the coordination is slightly less than 12. The average Sm-O distance is 2.658 AA. The results incidate that with the orthorhombic to trigonal transition, the distortion of the rare earth polyhedron decreases, whereas that of the aluminium octahedron increases slightly. The overall distortion of the structure decreases. A comparison of the SmAlO/sub 3/ structure with that of its iron counterpart shows that the distortion from the ideal cubic perovskite structure is quite different. Therefore, the two compounds cannot be considered truly isostructural. (17 Refs)

2/7/123
DIALOG(R)File 2:INSPEC

00310268 INSPEC Abstract Number: A71069671
Title: Investigation of polarization non-linearity near the phase transition in perovskite-like ferroelectrics, using an anharmonic oscillator model
Author(s): Fritsberg, V.Ya.
Book Title: Phase transitions in ferroelectrics p.7-21
Editor(s): Fritsberg, V.Ya.; Rolov, B.N.; Kruchan, Ya.Ya.
Publisher: Zinatne, Riga, Latvia, USSR
Publication Date: 1971 Country of Publication: USSR 205 pp.
Language: Russian Document Type: Book Chapter (BC)
Treatment: Theoretical (T)
Abstract: An analysis of the anharmonic oscillator model, as applied to the unit cell of perovskite-like lattices. The method of Boguslawski has been used to derive a microscopic concept of the coefficients A and B,

expanded in a series of the E=AP+BP/sup 3/ type, which is extended to the paraelectric state of the ferroelectric. The results are compared with experimental data (of Kirilov et al., Izv.AN SSSR, ser. fiz, 31, 1835, 1967) on the (Ba,Sr)TiO/sub 3/ system. (23 Refs)

2/7/124
DIALOG(R)File 2:INSPEC

00256308 INSPEC Abstract Number: A71033281
Title: The bond lengths in LaFeO/sub 3/
Author(s): Marezio, M.; Dernier, P.D.
Author Affiliation: Bell Telephone Labs. Inc., Murray Hill, NJ, USA
Journal: Materials Research Bulletin vol.6, no.1 p.23-9
Publication Date: Jan. 1971 Country of Publication: USA
CODEN: MRBUAC ISSN: 0025-5408
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: The crystal structure of LaFeO/sub 3/ has been refined from X-ray data taken from a highly twinned crystal. The least-squares refinement was carried out on 695 independent reflections which gave an R index of 0.035. LaFeO/sub 3/ has the orthorhombic perovskite-like structure, though the rare earth polyhedron is quite distorted relative to the ideal cubic arrangement. The results indicate that in contrast to the other members of the orthoferrite series the coordination number of the lanthanum atoms is no longer 8. The Fe octahedron is only slightly distorted and the average Fe-O and O-O distances are 2.006 AA and 2.837 AA, respectively.

2/7/125
DIALOG(R)File 2:INSPEC

00230804 INSPEC Abstract Number: A71016204
Title: High-pressure transformations in SrGeO/sub 3/, SrSiO/sub 3/, BaGeO/sub 3/, and BaSiO/sub 3/
Author(s): Shimizu, Y.; Syono, Y.; Akimoto, S.
Author Affiliation: Univ. Tokyo, Roppongi, Minato-ku, Japan
Journal: High Temperatures - High Pressures vol.2, no.1 p.113-20
Publication Date: 1970 Country of Publication: UK
CODEN: HTHPAK ISSN: 0018-1544
Language: English Document Type: Journal Paper (JP)
Abstract: The stability relations of SrGeO/sub 3/, BaGeO/sub 3/, SrSiO/sub 3/, and BaSiO/sub 3/ were studied in the range 650-1400 degrees C and 0-120 kbar. The atmospheric-pressure phases of SrGeO/sub 3/, BaGeO/sub 3/, and SrSiO/sub 3/ with the pseudowollastonite structure all transformed to a new phase with pseudo-orthorhombic symmetry at approximately 10-34 kbar. Above 50 kbar, a cubic perovskite structure of SrGeO/sub 3/ was obtained. A large density change (46% in total) was observed through the high-pressure transformations of SrGeO/sub 3/. BaGeO/sub 3/ was found to transform to 9H-type and 4H-type-like hexagonal perovskite-like structures above 95 kbar. The density increase in the transformation of BaGeO/sub 3/ from the pseudowollastonite structure to the perovskite-like structures was approximately 40%. A transformation from the atmospheric-pressure orthorhombic phase to an undetermined structure was found in BaSiO/sub 3/ at moderately high pressures. (11 Refs)

2/7/126
DIALOG(R)File 2:INSPEC

00167649 INSPEC Abstract Number: A70055719
Title: Electron diffraction investigation of phase transformations in thin films of tantalum oxide with perovskite-like structure
Author(s): Khitrova, V.I.; Pinsker, Z.G.
Journal: Kristallografiya vol.15, no.3 p.540-6
Publication Date: May 1970 Country of Publication: USSR
CODEN: KRISAJ ISSN: 0023-4761
Language: Russian Document Type: Journal Paper (JP)
Abstract: The method of electron diffraction structural analysis is applied to the investigation of phases in a series of cubic tantalum oxides with a perovskite-like structure and having a cell period of 7.75 AA. The analysis of the structure is accomplished by section of the three-dimensional Fourier potential series. It is found that because of appreciable change in the coordinates of the oxygen atoms, distortions of the structure occur, and the space group of the structure as a whole is Pmmm. Atomic coordinates are given. (11 Refs)

2/7/127
DIALOG(R)File 2:INSPEC

53760 INSPEC Abstract Number: A69035241
Title: Structure relations of hexagonal perovskite-like compounds ABX/sub 3/ at high pressure
Author(s): Syono, Y.; Akimoto, S.; Kohn, K.
Author Affiliation: Univ. Tokyo, Roppongi, Minato-ku, Japan
Journal: Journal of the Physical Society of Japan vol.26, no.4 p. 993-9
Publication Date: April 1969 Country of Publication: Japan
CODEN: JUPSAU ISSN: 0031-9015
Language: English Document Type: Journal Paper (JP)
Abstract: Phase stability relations among four hexagonal perovskite-like structures as well as the cubic perovskite structure have been studied for several oxides (BaMnO/sub 3/ and SrMnO/sub 3/) and fluorides (CsMnF/sub 3/, RbNiF/sub 3/ and TlNiF/sub 3/) at high pressure. A series of high pressure transformations are found to occur in the order of the packing sequence along the hexagonal c axis (or cubic 111 axis) of (ab), (ababcbcac), (abac), (abcacb) and (abc) with increasing pressure. This order is corresponding with the increasing order of the proportion of the cubic close-packed layers in the hexagonal close-packed structure. It is suggested that the tolerance factor of the perovskite structure and the Coulomb repulsive force play an important role in determining the crystal structure and its order in the series of phase transformations at high pressure.

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Perovskite type

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?•s perovskite()type
           8133  PEROVSKITE
         419473  TYPE
      S3    1388  PEROVSKITE()TYPE
?•s s3 and py=1969:1985
           1388  S3
        2642109  PY=1969 : PY=1985
      S4     515  S3 AND PY=1969:1985
?•t 4/7/1-5,510-515
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4/7/1
DIALOG(R)File 2:INSPEC

02785243 INSPEC Abstract Number: A87007649
Title: X-ray and dielectric characteristics of new antiferroelectrics Pb(B/sub 1/2/Sb/sub 1/2/)O/sub 3/
Author(s): Danilenko, I.N.; Politova, E.D.; Abramova, A.N.; Ivanov, S.A.; Venevtsev, Yu.N.
Author Affiliation: L.Ya. Karpov Sci.-Res. Phys. Chem. Inst., Moscow, USSR
Journal: Izvestiya Akademii Nauk SSSR, Neorganicheskie Materialy vol.21, no.8 p.1407-10
Publication Date: Aug. 1985 Country of Publication: USSR
CODEN: IVNMAW ISSN: 0002-337X
Translated in: Inorganic Materials vol.21, no.8 p.1233-6
Publication Date: Aug. 1985 Country of Publication: USA
CODEN: INOMAF ISSN: 0020-1685
U.S. Copyright Clearance Center Code: 0020-1685/85/2108-1233$09.50
Language: English Document Type: Journal Paper (JP)
Treatment: New Developments (N); Experimental (X)
Abstract: Compounds of the composition Pb(B/sub 1/2//sup 3+/Sb/sub 1/2/)O/sub 3/ were synthesized, where B/sup 3+/=Sc, Lu, Yb, Tm, Er, and Ho with a tendency toward the perovskite-type structure. Structural phase transformations were discovered, which are accompanied with anomalous dielectric properties. The new compounds are antiferroelectric with Curie temperatures below 330-458K. (7 Refs)

4/7/2
DIALOG(R)File 2:INSPEC

02757758 INSPEC Abstract Number: A86117797
Title: Structural aspects of perovskite-type compounds. Symmetry changes in SrCeO/sub 3/ and its solid solutions
Author(s): de Pretis, A.; Minichelli, D.; Ricciardiello, F.
Author Affiliation: Istituto di Chimica Applicata e Ind., Trieste Univ., Italy
Journal: Revue Internationale des Hautes Temperatures et des Refractaires vol.22, no.3-4 p.215-19
Publication Date: 1985 Country of Publication: France
CODEN: RIHTAV ISSN: 0035-3434
Language: English Document Type: Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Many ABO/sub 3/ perovskite-type compounds exhibit an orthorhombic symmetry with a approximately=b and c approximately=a square root 2 axis length. An important exception is the compound SrCeO/sub 3/ which exhibits a strongly distorted perovskite-type structure with 2 a approximately=b. However, the doubling of the b axis in SrCeO/sub 3/ disappears both in the SrCeO/sub 3/-SrZrO/sub 3/ and in the SrCeO/sub 3/-BaZrO/sub 3/ solid solutions in all the compositions differing from the stoichiometric SrCeO/sub 3/. (8 Refs)

4/7/3
DIALOG(R)File 2:INSPEC

02730414 INSPEC Abstract Number: A86104414
Title: New seignettomagnets with perovskite type structure
Author(s): Venevtsev, Yu.N.; Zhitomirsky, I.D.; Gagulin, V.V.; Sevastyanova, L.G.; Burdina, K.P.
Author Affiliation: L.Ya. Karpov Inst. of Phys. Chem., Moscow, USSR
Journal: Japanese Journal of Applied Physics, Supplement vol.24, suppl.24-2 p.1063-5
Publication Date: 1985 Country of Publication: Japan

CODEN: JJPYA5 ISSN: 0021-4922
Conference Title: Proceedings of the Sixth International Meeting on Ferroelectricity
Conference Sponsor: IUPAP; Int. Union Crystallogr.; Crystallogr. Soc. Japan
Conference Date: 12-16 Aug. 1985 Conference Location: Kobe, Japan
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Physical properties and phase transitions of 10 complex metal oxides of perovskite type have been studied. Some of them have been identified as seignettomagnets, ferrimagnets, antiferromagnets. (10 Refs)

4/7/4
DIALOG(R)File 2:INSPEC

02722533 INSPEC Abstract Number: B86053876
Title: New ceramic electrode for piezoelectric buzzer
Author(s): Nomura, S.; Yoshino, H.; Yamashita, Y.
Author Affiliation: Toshiba Res. & Dev. Center, Toshiba Corp., Kawasaki, Japan
Journal: Japanese Journal of Applied Physics, Supplement vol.24, suppl.24-2 p.736-8
Publication Date: 1985 Country of Publication: Japan
CODEN: JJPYA5 ISSN: 0021-4922
Conference Title: Proceedings of the Sixth International Meeting on Ferroelectricity
Conference Sponsor: IUPAP; Int. Union Crystallogr.; Crystallogr. Soc. Japan
Conference Date: 12-16 Aug. 1985 Conference Location: Kobe, Japan
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Practical (P); Experimental (X)
Abstract: Electrically conductive oxide electrodes were investigated, and the piezoelectric characteristics were measured for lead zirconate titanate (PZT) resonator with the conductive oxide electrodes. Printable pastes were made using conductive oxides having perovskite type structure, such as BaPbO/sub 3/, BaPb/sub 1.2/O/sub 3/, BaPb/sub 0.8/Bi/sub 0.2/O/sub 3/, BaPb/sub 0.8/Sb/sub 0.2/O/sub 3/ and La/sub 0.5/Sr/sub 0.5/CoO/sub 3/, with glass frits and organic vehicles. the electrical resistivities of these pastes were measured at room temperature by four probe method, which were 1.4*10/sup -2/ ohm-cm for BaPbO/sub 3/ paste and 2.3*10/sup -2/ ohm-cm for La/sub 0.5/Sr/sub 0.5/CoO/sub 3/ paste. The piezoelectric resonators were obtained with Kp=39%, tan delta =3.2% and C=24nF for an electrode of BaPbO/sub 3/ paste and with Kp=31%, tan delta =6.8% and C=39nF for an electrode of La/sub 0.5/Sr/sub 0.5/CoO/sub 3/ paste. (8 Refs)

4/7/5
DIALOG(R)File 2:INSPEC

02722499 INSPEC Abstract Number: A86093928, B86055736
Title: Optical detector using superconducting BaPb/sub 0.7/Bi/sub 0.3/O/sub 3/ (BPB) thin films
Author(s): Enomoto, Y.; Murakami, T.
Author Affiliation: Ibaraki Electr. Commun. Lab., NTT, Ibaraki, Japan
Journal: Japanese Journal of Applied Physics, Supplement vol.24, suppl.24-2 p.471-3
Publication Date: 1985 Country of Publication: Japan
CODEN: JJPYA5 ISSN: 0021-4922
Conference Title: Proceedings of the Sixth International Meeting on

Ferroelectricity
Conference Sponsor: IUPAP; Int. Union Crystallogr.; Crystallogr. Soc. Japan
Conference Date: 12-16 Aug. 1985 Conference Location: Kobe, Japan
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Experimental (X)
Abstract: Highly sensitive optical detectors have been fabricated by using perovskite type superconductor BaPb/sub 0.7/Bi/sub 0.3/O/sub 3/ (BPB) thin films. Optical signals create quasi-particles and induce changes in the superconducting order parameter. These changes are measured by tunneling junctions along grain boundaries in the BPB polycrystalline thin films. The sensitivity is about 10/sup 3/ V/W in the 1.0 approximately 10 mu m wavelength range and they can respond up to 600 MHz at the wavelength of 3.2 mu m. The observed results suggest that the BPB detectors are suitable for application in optical communication systems and infrared spectrometers. (7 Refs)

4/7/510
DIALOG(R)File 2:INSPEC

00070494 INSPEC Abstract Number: A69045389
Title: Millimeter wave e.s.r. studies of ferric iron in perovskite-type oxides
Author(s): Pontin, R.G.; Slade, E.F.; Ingram, D.J.E.
Author Affiliation: Univ. Keele, UK
Journal: Journal of Physics C (Solid State Physics) vol.2, no.7 p. 1146-50
Publication Date: July 1969 Country of Publication: UK
CODEN: JPSOAW ISSN: 0022-3719
Language: English Document Type: Journal Paper (JP)
Abstract: The paramagnetic resonance spectrum of Fe/sup 3+/ in lead and strontium titanates has been studied at Q band and 70GHz, and at temperatures down to 4.2 degrees k. The zero-field splittings have been measured directly giving values of 1.06+or-0.05cm/sup -1/ for lead titanate at room temperature and 2.698+or-0.006 cm/sup -1/ for strontium titanate. The spectrum for lead titanate can be fitted to a spin Hamiltonian with g/sub mod mod /=g/sub i/=2.0, D=0.53 cm/sup -1/ and a=2.70+10/sup -2/cm/sup -1/ and a 20% increase in the zero-field splitting parameter is observed on cooling from room temperature to 77 degrees K indicating a small lattice deformation. A second transition tentatively identified as arising from a charge-compensated site having a zero-field splitting equal to 1.8+or-0.1 cm/sup -1/, has also been observed. The spectrum for strontium titanate has been studied at 35GHz and 70GHz and it is found that the Hamiltonian parameters differ slightly from those previously determined from the 10 GHz spectrum. (11 Refs)

4/7/511
DIALOG(R)File 2:INSPEC

00063513 INSPEC Abstract Number: A69043103
Title: Characteristic features of the dielectric polarization of ferroelectric solid solutions with the perovskite-type structure at the morphotropic phase boundary and far from it
Author(s): Stolypin, Yu.E.; Isupov, V.A.
Journal: Fizika Tverdogo Tela vol.11, no.3 p.823-5
Publication Date: March 1969 Country of Publication: USSR
CODEN: FTVTAC ISSN: 0367-3294
Translated in: Soviet Physics - Solid State
Country of Publication: USA

CODEN: SPSSA7 ISSN: 0038-5654
Language: Russian Document Type: Journal Paper (JP)
Abstract: The permittivity of solid solutions (1-x)(0.6PbTiO/sub 3/+0.4PbMg/sub 0.5/W/sub 0.5/O/sub 3/)+xPbZrO/sub 3/ was determined in static electric fields up to 20 kV/cm. It was found that the solutions near a morphotropic (vertical) phase boundary, separating the ferroelectric (tetragonal, x<0.30) and paraelectric (rhombohedral, x>0.30) compositions, exhibited different field dependences of the permittivity from the solutions far from this boundary. This was attributed to the coexistence of mixed tetragonal and rhombohedral phases near the morphotropic boundary and subsequent formation of boundaries between these phases.

4/7/512
DIALOG(R)File 2:INSPEC

00063406 INSPEC Abstract Number: A69042939
Title: Phase composition of reduced and reoxidized barium titanate
Author(s): Arend, H.; Kihlborg, L.
Author Affiliation: Czechoslovak Academy Sci., Prague, Czechoslovakia
Journal: Journal of the American Ceramic Society vol.52, no.2 p. 63-5
Publication Date: 21 Feb. 1969 Country of Publication: USA
CODEN: JACTAW ISSN: 0002-7820
Language: English Document Type: Journal Paper (JP)
Abstract: Reducing high-purity BaTiO/sub 3/ in hydrogen for 1 h at 1275 degrees C leads to an oxygen deficiency x= 0.0036 in BaTiO/sub 3-x/ with maintenance of the tetragonal/cubic perovskite-type structure. Reduction at 1325 degrees C leads to x = 0.0073 and brings about transformation to the hexagonal modification. Up to 1500 degrees C (x = 0.0233) no further phase change occurs. Annealing the oxygen-deficient hexagonal phase in oxygen at 850 degrees C for 2 h produces stoichiometric samples which are still hexagonal, whereas the tetragonal/cubic structure is restored by heating for 1 h at 1350 degrees C. (16 Refs)

4/7/513
DIALOG(R)File 2:INSPEC

00063265 INSPEC Abstract Number: A69042795
Title: Perovskite type structures of aluminates of rare-earth elements
Author(s): Margolis, N.V.; Udalov, Yu.P.
Journal: Kristallografiya vol.14, no.2 p.334-6
Publication Date: March 1969 Country of Publication: USSR
CODEN: KRISAJ ISSN: 0023-4761
Language: Russian Document Type: Journal Paper (JP)
Abstract: Calculations are made of the maximum relative displacement and of the force acting on the anion in rare-earth aluminates for rhombohedral and tetragonal lattice distortion. The results are plotted against the radius of the lanthanide ion; the curves are discussed, and it is concluded that rare-earth aluminates with the perovskite structure and rhombohedral lattice distortion can exist between ionic radii of 0.942 and 0.91 AA.

4/7/514
DIALOG(R)File 2:INSPEC

00060163 INSPEC Abstract Number: A69039211
Title: Crystal growth and phase transitions of CsPbCl/sub 3/
Author(s): Hirotsu, S.; Sawada, S.
Author Affiliation: Tokyo Inst., Technology, Japan

Journal: Physics Letters A vol.28a, no.11 p.762-3
Publication Date: 10 March 1969 Country of Publication: Netherlands
CODEN: PYLAAG ISSN: 0375-9601
Language: English Document Type: Journal Paper (JP)
Abstract: Three phase transitions were confirmed in the perovskite-type crystal CsPbCl/sub 3/ by observing changes of conoscopic figures with temperature. Measurements of the temperature dependence of birefringence and specific heat were also performed.

4/7/515
DIALOG(R)File 2:INSPEC

00041801 INSPEC Abstract Number: A69028558
Title: Correction of dipole field due to lattice deformation of a Perovskite-type crystal
Author(s): Kinase, W.; Uemura, Y.; Kikuchi, M.
Author Affiliation: Univ., Nishiokubo, Shinjuku, Tokyo, Japan
Journal: Journal of the Physics and Chemistry of Solids vol.30, no.2 p.441-7
Publication Date: Feb. 1969 Country of Publication: UK
CODEN: JPCSAW ISSN: 0022-3697
Language: English Document Type: Journal Paper (JP)
Abstract: Correction of Lorentz field coefficients in a Perovskite- type crystal is discussed by considering orthorhombic deformation of a simple cubic lattice. If one considers the deformation of crystal structure from the simple cubic lattice to the orthorhombic lattice a change of the internal field at some respective points caused by the dipole interaction is calculated. By applying the results, quantitative discussions are possible for many phenomena accompanied by the lattice deformation namely, ferroelectricity, piezoelectricity, photoelasticity and so on. As an example calculations are made to estimate the birefringences of the BaTiO/sub 3/ and WO/sub 3/ crystals.

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Perovskite like in books

S1 1 perovskite-like
S2 134 perovskite
S3 57219 like
S4 1 (perovskite-like) or (perovskite w like)

5=> f s4 and yr < 1986

S E A R C H R E S U L T S

Search ID	Records Found	Search Term
S5	1	s4 and yr < 1986

6=> d s5 1 f8

R e c o r d 1 o f 1

AN: 9198569

AU: Moller, Christian Knakkergard.
TI: The structure of perovskite-like caesium plumbo trihalides
YR: 1959
PB: Munksgaard,
PL: Kobenhavn :
SE: Matematisk-fysiske meddelelser / udgivet af det Kongelige Danske videnskabernes selskab ; bd. 32, nr. 2
LN: English
PT: Book
PH: 27 p. : ill. ; 24 cm.

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Perovskite type

6=> f (perovskite-type) or (perovskite w type)

S E A R C H R E S U L T S

Search ID	Records Found	Search Term
S6	25	perovskite-type
S7	134	perovskite
S8	82277	type
S9	30	(perovskite-type) or (perovskite w type)

10=> f s9 and yr < 1986
Searching ...
S E A R C H R E S U L T S

Search ID	Records Found	Search Term
S10	13	s9 and yr < 1986

11=> d s10 1-13 f8
R e c o r d 1 o f 13
Copyright 1998 OCLC

AN: 31493896
AU: Galasso, Francis S.
TI: Structure, properties, and preparation of perovskite-type compounds
YR: 1969
PB: Pergamon Press,
PL: Oxford ; New York :
SE: International series of monographs in solid state physics ; v. 5
LN: English
PT: Book
PH: x, 207 p. : ill.

R e c o r d 2 o f 13
Copyright 1998 OCLC

AN: 31119286
AU: Karian, Harutun G.
TI: Tight-binding energy bands of perovskite type transition metal oxides
YR: 1969

LN: English
PT: Book
PH: 264 leaves : ill. ; 29 cm.

Record 3 of 13

AN: 30202456
AU: Kay, Herbert Frederick.
TI: Growing of perovskite-type crystals.
YR: 1954
PB: British Electrical & Allied Industries Research Association,
SE: British Electrical & Allied Industries Research Association. Technical reports ; L/T303
LN: English
PT: Book
PH: 11 p. : ill. ; 29 cm.

Record 4 of 13

AN: 27705140
AU: Jonkers, G. H.
TI: The dielectric properties of titanates of the perovskite type.
YR: ? 1947 1993
SK: 92-18028 NTC
LN: English
PT: Book
PH: 15 p.

Record 5 of 13

AN: 27440633
AU: Li, W.
TI: Rare earth perovskite-type catalysts and hopcalite.
YR: ? 1985 1993
SK: 92-17440 NTC
LN: English
PT: Book
PH: 15 p.

Record 6 of 13

AN: 26422718
TI: A Process for production of perovskite type oxide powder containing zirconium.
YR: ? 1984 1990
SK: 89-15770 NTC
LN: English
PT: Book
PH: 6 p.

Record 7 of 13

AN: 26419114
TI: A Process for production of perovskite-type lead-containing composite

oxide.
YR: ? 1985 1990
SK: 89-14970 NTC
LN: English
PT: Book
PH: 37 p.

Record 8 of 13

AN: 26413442
AU: Dougier, P.
TI: Study of the magnetic, electrical and optical properties of the perovskite-type phases of strontium vanadate (SrVO2.
YR: ? 1975 1992
SK: 92-10366 NTC
LN: English
PT: Book
PH: 16 p.

Record 9 of 13

AN: 14161872
AU: Nelson, Carl W.
TI: Ferroelectricity and the chemical bond in perovskite-type oxides
YR: 1963
PB: Laboratory for Insulation Research, Massachusetts Institute of Technology,
PL: Cambridge, Mass. :
SE: Technical report / Laboratory for Insulation Research, Massachusetts Institute of Technology ; 179
LN: English
PT: Book
PH: 31 p. : ill. ; 28 cm.

Record 10 of 13

AN: 10986161
AU: Otagawa, Takaaki, 1953-
TI: Electrocatalysis of oxygen evolution of perovskite-type oxides
YR: 1983
LN: English
PT: Book
PH: xxii, 334 leaves : ill. ; 29 cm.

Record 11 of 13

AN: 6020262
AU: Michel, Christian Gabriel, 1939-
TI: Structures and relationships of some Perovskite-Type compounds.
YR: 1970
LN: English
PT: Book
PH: 89 p.

Record 12 of 13

AN: 5684064
AU: Bents, Ulrich H.
TI: A neutron diffraction study of the magnetic structure for the perovskite-type mixed oxides La(Mn,Cr)03 and (La,Sr)Fe03.
YR: 1956
PL: [College Station, Tex.]
LN: English
PT: Book
PH: 85 l. illus.

Record 13 of 13

AN: 542300
AU: Galasso, Francis S.
TI: Structure, properties, and preparation of perovskite-type compounds.
YR: 1969
PB: Pergamon Press
PL: Oxford, New York,
SE: International series of monographs in solid state physics, v.5
LN: English
PT: Book
PH: 207 p.

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